

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment						
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	58579	67674	110829	136899	118142	82831	46424	46707	Continuing	Continuing
DC40 Soldier Support Equipment	1683	1705	4516	5872	9238	12601	14152	14558	Continuing	Continuing
DL40 Clothing and Equipment	3955	4320	3517	4287	4572	4597	5183	5187	Continuing	Continuing
D548 Military Subsistence System	829	1290	1625	1753	1867	1880	2006	2012	Continuing	Continuing
D667 Land Warrior	39004	45573	86559	109663	87696	49519	8501	8400	Continuing	Continuing
D668 Soldier Enhancement Program	11541	14602	14418	14390	14156	14234	16582	16550	Continuing	Continuing
D680 Mounted Warrior	1567	184	194	934	613	0	0	0	0	3518
<p>A. <u>Mission Description and Budget Item Justification:</u> Project supports Engineering and Manufacturing Development (EMD) and Non-Developmental Item (NDI) evaluation of unit/organizational equipment, weapons/munitions, clothing and individual equipment, fabric shelters, field service equipment, food and food service equipment to enhance soldier efficiency, effectiveness, lethality, sustainability and survivability. New food items and food service equipment will be developed to reduce food service logistics requirements for all four Services. The organizational equipment program supports development of a new generation of field device support items: small, large and collective protective shelters; decontamination items; and improved space heaters to shelter and sustain the soldiers in the field and improve quality of life. The Land Warrior program will produce the first fully integrated fighting system for dismounted combat soldiers. The Soldier Enhancement Program provides soldier items that can be procured in three years or less.</p>										
Page 1 of 26 Pages						Exhibit R-2 (PE 0604713A)				

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DATE
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BUDGET ACTIVITY

5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE

0604713A Combat Feeding, Clothing, and Equipment

B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (<u>FY 1999</u> PB)	60053	62218	39201	40651
Appropriated Value	61964	68218		
Adjustments to Appropriated Value				
a. Congressional General Reductions	-1911	-544		
b. SBIR / STTR	-1484			
c. Omnibus or Other Above Threshold Reductions	-490			
d. Below Threshold Reprogramming	+500			
e. Rescissions				
Adjustments to Budget Years Since <u>FY 1999</u> PB		+5456	+71628	+96248
Current Budget Submit (<u>FY 2000 / 2001</u> PB)	58579	67674	110829	136899

Change Summary Explanation: FY99-FY01 increases due to program restructure and change in acquisition strategy for Land Warrior project (D667).

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COST <i>(In Thousands)</i>	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
DC40 Soldier Support Equipment	1683	1705	4516	5872	9238	12601	14152	14558	Continuing	Continuing

A. Mission Description and Budget Item Justification: Develop and field soft shelters, showers, latrines, heaters, mortuary affairs, organizational equipment and other combat service support equipment to improve unit sustainability and combat effectiveness. Develop and transition to procurement cargo and personnel parachutes, airdrop containers and other aerial delivery equipment to improve safety and efficiency of airborne operations. Develop a series of Rigid Wall Shelters (RWS) with added capabilities and enhanced survivability.

FY 1998 Accomplishments:

- 1030 Completed prototype development and conducted Developmental Test/Operational Test (DT/OT) of Laundry Advanced System (LADS) prototypes.
- 403 Awarded LRIP/Production contract for Modular General Purpose Tent System (MGPTS). Completed Production Verification Testing and shipped LRIP items to units for field evaluation.
- 250 Fabricated Containerized Shower test unit and initiated technical manual and performance specification contracts.

Total 1683

FY 1999 Planned Program:

- 300 Type Classify MGPTS. Build Modular General Purpose Tent System(MGPTS) P3I test prototype items and initiate testing/evaluation for following items (fabric flooring, frame system, liners).
- 832 Prepare/award contract for commercial Aviation Maintenance Shelter (AMS) and associated support items.
- 150 Type Classify Laundry Advanced System to transition to production phase.
- 227 Conduct Technical and Operational Testing on the Containerized Shower and Type Classify the performance specification.
- 182 Procure prototypes, conduct technical test, and develop performance specification for Space Heater Small. Conduct study of heating requirements for new MGPTS.
- 14 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs

Total 1705

FY 2000 Planned Program:

- 296 Award Low Rate Initial Production (LRIP) contract for Space Heater Small, conduct testing and Type Classify standard.
- 400 Complete testing/evaluation of Modular General Purpose Tent System P3I test items.

Project DC40
Page 3 of 26 Pages
Exhibit R-2A (PE 0604713A)

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<ul style="list-style-type: none"> • 1986 Complete Developmental Testing on Advanced Reserve Parachute System. <p>FY 2000 Planned Program: (continued)</p> <ul style="list-style-type: none"> • 1159 Complete field evaluation and Milestone III for the High Mobility Multipurpose Wheel Vehicle (HMMWV) Cargo Bed Cover (Type I) and 1.5 Ton trailer (Type II) variants and transfer to full production. • 275 Conduct market survey and develop prototypes of the Chaplain's Equipment • 400 Conduct market surveys and evaluate technologies for the TEMPER XXI <p>Total 4516</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 650 Conduct testing of the Chaplain's Logistic Support Package • 2523 Conduct Operational Testing of Advance Tactical Parachute System/Advanced Reserve Parachute System • 100 Conduct market survey on the 500' Low Velocity Air Delivery System • 400 Develop prototype and conduct field evaluation for TEMPER XXI technologies. • 1377 Integrate Modular General Purpose Tent System preplanned product improvement items into existing system • 500 Develop/Design prototype heater for a soldier back pack. • 322 Design/develop Semi-Rigid Wing Deployable prototypes <p>Total 5872</p>																																																																																																																																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">B. 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B. Other Program Funding Summary	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost
MA8061, Lightweight Maintenance Enclosure			2128	2013	2931	6379				
C. Acquisition Strategy: Accelerated developments that incorporate Low Rate Initial Production (LRIP) contracts for earlier transition to procurement.										
D. Schedule Profile	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2004	FY 2005
Completed Containerized Shower prototypes	4Q*									
Completed MGPTS PVT/FE	2Q*									
Conducted Technical Test and Operational Test (TT/OT) on LADS prototypes	4Q*									
Type classify LADS		2Q								
Conduct TT/OT on Containerized Shower		1Q*								
Develop frame and floor MGPTS P3I		2Q								
Award contract for AMS Shelter		3Q								
Type Classify Containerized Shower		2Q								
Type Classify MGPTS		3Q								
Award LRIP contract for SHS			1Q							
Conduct Testing of SHS			2Q							
Complete ARPS DT			4Q							
Complete Milestone III for CBC HMMWV (Type I) and 1.5 ton trailer (Type II) variants			2Q							
Conduct Testing of Chaplain's package				3Q						
Conduct OT of ATPS				2Q						
*Milestone Completed										
<div style="display: flex; justify-content: space-between;"> Project DC40 Page 5 of 26 Pages Exhibit R-2A (PE 0604713A) </div>										

UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment					PROJECT DC40		

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. SSCOM	In-House	NRDEC	1838	320		364		655		Cont.	3177	
b. Contracts	Various	Various	8063	795	Various	754	Various	1392	Various	Cont.	11004	Cont.
Subtotal Product Development:			9901	1115		1118		2047			14181	

II. Support Costs: There are no efforts associated with the delivery of any of a fully integrated system that are in direct support of this project and essential to the development, training, operation, and maintenance of systems in this project.

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TECOM/OEC	MIPR	Various	3551	500	Various	3220	Various	3537	Various	Cont.	10808	Cont
Subtotal Test and Evaluation:			3551	500		3220		3537			10808	

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. PM Office	In-House	PM-Soldier Support/SSCOM	1382	90		178		288		Cont.	1938	Cont.
Subtotal Management Services:			1382	90		178		288			1938	

Project Total Cost:			14834	1705		4516		5872			26927	
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Project DC40
Page 6 of 26 Pages
Exhibit R-3 (PE 0604713A)

UNCLASSIFIED

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT DL40		
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
DL40 Clothing and Equipment	3955	4320	3517	4287	4572	4597	5183	5187	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project develop state-of-the-art individual clothing and equipment to improve the survivability, mobility, sustainment affecting the quality of life of the individual soldier. Funding shown does not reflect funding from OSD PE 0604384BP to support the Chemical/Biological Defense program in accordance with Public Law 103-60 Title XVII.

FY 1998 Accomplishments:

- 883 Awarded contract for initial prototype development and DT test items for BASIC P3I.
- 1366 Fabricated test items and completed Developmental Testing and Operational Testing of the Modular Body Armor (MBA). MLS (Renamed: Interceptor/Modular Lightweight Load-Carrying Equipment System (MOLLE) completed DT/OT. Program will be realigned with USMC System.
- 311 Completed design review awarded contract for test items for Improved Physical Fitness Uniform.
- 446 Completed design modifications and procured prototypes and initiated a wear test and acceptability evaluation of the Maternity Utility Work Uniform and Coat, Men's Dress Coat and Trousers, Women's Coat, and the all-weather Coat (Men's and Women's), Physical Fitness Uniform .
- 773 Completed redesign, conduct User Evaluation /Log Demonstration/Component Testing for ITAP.
- 176 In house engineering support services, computer services, conduct technical and program reviews

Total 3955

FY 1999 Planned Program:

- 620 Complete DT/OT and assessment reports for the MBA and MOLLE.
- 745 Conduct a wear test and acceptability evaluation of the Maternity Utility Work Uniform and Coat, Men's Dress Coat and Trousers, Women's Coat, and the All-Weather Coat (Men's and Women's) and Improved Physical Fitness Uniform.
- 155 Complete Basis of Issue, provisioning and training information for Improved Toxicological Agent Protective suite Conduct MSIII IPR, TC.
- 900 Modify designs, develop test prototypes, complete DT/OT, and obtain MS III approval of the BASIC P3I and the Conceivable Body Armor.
- 500 Complete test of the Disposable Emergency Ensemble, obtain MS III approval, and transition to procurement.
- 1072 Develop initial designs, conduct an early user evaluation, and refine designs for Climate Control Equipment (heating and cooling) for the individual soldier.
- 226 In house engineering support services, conduct technical and program reviews
- 102 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs

Project DL40 Page 7 of 26 Pages Exhibit R-2A (PE 0604713A)

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Total 4320										
FY 2000 Planned Program:										
•	165	Obtain MSIII BASIC P3I Cancelable Body Armor, Light Weight PASGT Helmet, TC and transition to production								
•	737	Modify designs, conduct prototype testing and early user evaluation for Lightweight Micro Cooling System, Individual Body Heating System.								
•	809	Conduct design reviews and seek new improved materials for evaluation of Military Uniform Items, Footwear, Physical Fitness Uniforms and improved boots and socks for the soldier of the next century.								
•	973	Initiate market surveys, continue evaluations on items to begin in FY2000.								
•	833	In house engineering support services, computer services, conduct technical and program reviews								
Total		3517								
FY 2001 Planned Program:										
•	900	Continue evaluation/procure and/or test items from FY2000 programs								
•	300	Initiate MLS/MOLLE enhancements to improved configuration and frame with state-of-the-art materials								
•	500	Begin enhancements/improvements to the MEPS for improved laser protection, improved /lighter materials								
•	1870	Initiate market surveys and/or evaluations on new items that will commence in FY 2001.								
•	717	In house engineering support services, computer services, conduct technical and program reviews								
Total		4287								
B. Other Program Funding Summary:		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
RDTE, 0603747.D669, Clothing & Equipment		3364	4088	3510	4844	4890	5557	5286	Cont	Cont
OMA, 114092000, Central Funding and Fielding		51500	48130	94738	94127	77456	77456	77456	Cont	Cont
C. Acquisition Strategy: Soldier modernization will be accomplished via integrated acquisition programs ranging from NDI/modified NDI through integrated programs. Acquisition strategies will vary from: 1) quick fixes in 36 months or less from concept to Type Classification (TC) such as Soldier Enhancement Programs (SEP), 2) modular improvements which require limited RDT&E and can be completed in more than 36 months from concept to TC.										
D. Schedule Profile		<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>
Request for Programs FY99-05		2Q*	2Q	2Q	2Q	2Q	2Q	2Q	2Q	2Q
Life Cycle Systems Reviews		4Q	2&4Q	2&4Q	2&4Q	2&4Q	2&4Q	2&4Q	2&4Q	2&4Q
*Denotes a completed milestone										
Project DL40		Page 8 of 26 Pages					Exhibit R-2A (PE 0604713A)			

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
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a. Various	In House	SSCOM NRDEC	2000	1969		973		1470		Cont	6412	Cont
b. Contracts	Various	Various	1000	1500	TBD	1000	TBD	1000	TBD	Cont	4500	Cont
Subtotal Product Development:			3000	3469		1973		2470			10912	

Remark: The Clothing and Equipment project develops and evaluates Non-Development Items (NDI) and Commercial Off-the-Shelf (COTS) items. New items are identified annually. Contractual efforts are very low dollar amounts – used to procure a few prototypes for testing.

II. Support Costs: Support costs vary annually depending on the lattes state of the art technology inserts. RDEC’s support to evaluate items also varies annually depending on number and types of programs. We average approximately 50 programs annually.

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TECOM	MIPR	Various	86	164	TBD	178	TBD	250	TBD	Cont	678	Cont
b. ILS SPT	MIPR	Various	148	235	TBD	100	TBD	125	TBD	Cont	608	Cont
Subtotal Test and Evaluation:			234	399		278		375			1286	

Remark: Testing costs vary annually by item.

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
b. Program Management	In House	PM Soldier	176	226		633		698		Cont	1733	Cont
c. See Remark			176	226		633		744			1779	
Subtotal Management Services:			352	452		1266		1442			3512	

Remark: Costs vary annually depending on number and type of items being evaluated

Project DL40
Page 9 of 26 Pages
Exhibit R-3 (PE 0604713A)

										DATE		February 1999	
BUDGET ACTIVITY					PE NUMBER AND TITLE								
5 - Engineering and Manufacturing Development					0604713A Combat Feeding, Clothing, and Equipment								
Project Total Cost:				3586	4320		3517		4287			15710	Cont

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D548	

COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D548 Military Subsistence System	829	1290	1625	1753	1867	1880	2006	2012	Continuing	Continuing

A. Mission Description and Budget Item Justification: Project provides Engineering and Manufacturing Development (EMD) and Non-developmental Item (NDI) evaluation of food and food service equipment to enhance soldier efficiency and survivability. New food items and food service equipment will be developed to reduce food service logistics requirements for all four services. Development of Joint Service Food/Food Service Equipment to improve individual combat effectiveness and reduce logistics burden and operation and support costs of subsistence support for service men and women. Develop multi-fuel, rapidly deployable field food service equipment to support combat, humanitarian missions and operations-other-than-war. Improve equipment to enhance safety in food service, utilize battlefield fuels and decrease fuel and water requirements.

FY 1998 Accomplishments:

- 374 Designed/fabricated new oven system and heat exchanger prototypes to improve heat transfer from Modern Burner Unit to upgraded components for field kitchens.
- 236 Conducted field evaluations of component improvements and installation procedures for the Modern Kitchen Trailer at multi field locations.
- 110 Type Classified the Containerized Kitchen and transitioned to production and deployment phase. Developed production contract Request For Proposals.
- 109 Conducted field evaluations of commercially available squad stoves to improve subsistence capability in the field and transition to procurement.

Total 829

FY 1999 Planned Program:

- 360 Design and fabricate prototypes for remaining kitchen components and conduct technical testing of improved field kitchen equipment for use with the Modern Burner Unit.
- 437 Complete fabrication and conduct development and user testing of Marine Corps Rapid Deployment Kitchen.
- 62 Complete technical and user testing of Non-Electric Field Refrigerator and develop performance specification.
- 408 Complete user evaluations of steam generator/power washer for field food sanitation centers and initiate integration of gray water treatment/handling system for on-site wastewater disposal.
- 23 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs

Total 1290

Project D548
Page 10 of 26 Pages
Exhibit R-2A (PE 0604713A)

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999																																																																			
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D548																																																																			
<p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 349 Complete fabrication of remaining field feeding components to improve efficiency and integrate into complete kitchen for formal testing. • 539 Integrate all components into full-up advanced food sanitation center and initiate development testing. • 326 Develop kit components to allow use of Modern Burner Unit in extreme cold weather. • 411 Prepare design concept for shelter/container and food service equipment. Conduct testing of prototype Air Force lightweight initial deployment kitchen. <p>Total 1625</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 344 Conduct DT/OT field kitchen equipment efficiency upgrades. • 397 Complete DT/OT of advanced food sanitation center. • 341 Complete fabrication of HMMWV trailer based kitchen to increase mobility and deployability of company level kitchens and initiate DT/OT. • 358 Complete fabrication and initiate testing of Air Force temporary lightweight initial deployment kitchen. • 313 Conduct cold weather evaluations of extreme cold weather burner kit and transition to procurement. <p>Total 1753</p>																																																																											
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th align="left">B. Other Program Funding Summary</th> <th align="center"><u>FY 1998</u></th> <th align="center"><u>FY 1999</u></th> <th align="center"><u>FY 2000</u></th> <th align="center"><u>FY 2001</u></th> <th align="center"><u>FY 2002</u></th> <th align="center"><u>FY 2003</u></th> <th align="center"><u>FY 2004</u></th> <th align="center"><u>FY 2005</u></th> <th align="center"><u>To Compl</u></th> <th align="center"><u>Total Cost</u></th> </tr> <tr> <td>RDTE, 0603747.D610, Food Adv Dev</td> <td align="center">2120</td> <td align="center">2560</td> <td align="center">3110</td> <td align="center">3387</td> <td align="center">3745</td> <td align="center">3722</td> <td align="center">3930</td> <td align="center">3956</td> <td align="center">Cont</td> <td align="center">Cont</td> </tr> <tr> <td>OPA3, M65803, Kitchen, Containerized, Field</td> <td></td> <td align="center">7425</td> <td align="center">7062</td> <td align="center">7087</td> <td align="center">5663</td> <td align="center">6581</td> <td align="center">8358</td> <td align="center">8649</td> <td align="center">Cont</td> <td align="center">Cont</td> </tr> <tr> <td>OPA 3, M65802, Sanitation Center, Field Feeding</td> <td></td> <td></td> <td align="center">661</td> <td align="center">1843</td> <td align="center">1817</td> <td align="center">6481</td> <td align="center">5895</td> <td align="center">5838</td> <td align="center">Cont</td> <td align="center">Cont</td> </tr> <tr> <td>OPA 3, M65802, Sanitation Center, Field Feeding</td> <td></td> <td align="center">1361</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>M65801, Refrigeration Equipment</td> <td></td> <td align="center">1914</td> <td align="center">931</td> <td align="center">924</td> <td align="center">931</td> <td align="center">2384</td> <td align="center">2533</td> <td align="center">2551</td> <td></td> <td></td> </tr> </table>										B. Other Program Funding Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>	RDTE, 0603747.D610, Food Adv Dev	2120	2560	3110	3387	3745	3722	3930	3956	Cont	Cont	OPA3, M65803, Kitchen, Containerized, Field		7425	7062	7087	5663	6581	8358	8649	Cont	Cont	OPA 3, M65802, Sanitation Center, Field Feeding			661	1843	1817	6481	5895	5838	Cont	Cont	OPA 3, M65802, Sanitation Center, Field Feeding		1361									M65801, Refrigeration Equipment		1914	931	924	931	2384	2533	2551		
B. Other Program Funding Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>																																																																	
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<div style="display: flex; justify-content: space-between;"> Project D548 Page 11 of 26 Pages Exhibit R-2A (PE 0604713A) </div>																																																																											

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D548		
D. Schedule Profile	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2004</u>	<u>FY 2005</u>
Conduct DT of improved Army Field Feeding Equipment for MBU		3Q								
Conduct testing on Rapid Deployment Kitchen		3Q								
Initiate developmental testing of Advanced Food Sanitation Center			4Q							
Design and Evaluate US Air Force Lightweight Initial Deployment Kitchen			2Q							
Conduct DT/OT on field kitchen equipment efficiency upgrades				2Q						
Complete DT/OT of Advanced Food Sanitation Center				3Q						
Initiate DT/OT on HMMWV trailer based kitchen				2Q						
Initiate testing of Air Force temporary lightweight initial deployment kitchen				2Q						
* Milestone completed										

Project D548
Page 12 of 26 Pages
Exhibit R-2A (PE 0604713A)

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment					PROJECT D548		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. SSCOM	In-House	SSCOM	6793	706		890		969		Cont.	9358	Cont.
b. Various	Various	Various	731	120	Various	158	Various	171	Various	Cont.	1180	Cont.
Subtotal Product Development:			7524	826		1048		1140			10538	
II. Support Costs: There are no efforts associated with the delivery of any of a fully integrated system that are in direct support of this project and essential to the development, training, operation, and maintenance of systems in this project.												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TECOM/OEC	MIPR	Various	1581	400		490		525		Cont.	2996	Cont.
Subtotal Test and Evaluation:			1581	400		490		525			2996	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Project Ofc Management	In-House	SSCOM	449	64		87		88		Cont.	688	Cont.
Subtotal Management Services:			449	64		87		88			688	
Project Total Cost:			9554	1290		1625		1753			14222	
<div style="display: flex; justify-content: space-between;"> Project D548 Page 13 of 26 Pages Exhibit R-3 (PE 0604713A) </div>												

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D667	

COST <i>(In Thousands)</i>	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D667 Land Warrior	39004	45573	86559	109663	87696	49519	8501	8400	Continuing	Continuing

A. Mission Description and Budget Item Justification: Land Warrior (LW) is a first generation, modular, infantry fighting system providing combat overmatch to our soldiers by integrating night vision, information, communications, situational awareness, and personal protection technologies to improve the lethality, survivability, command and control, mobility, and sustainment of Ranger, Airborne, Air Assault, Light and Mechanized infantry on the digitized battlefield.

FY 1998 Accomplishments:

- 33113 Built three prototypes and 18 subsystem sets; conducted preliminary airborne certification, safety, and immersion testing, fixed deficiencies, delivered and first software build. Delivered 2 systems and conducted Fightability (Phase I) assessment at Fort Benning. Modified Land Warrior EMD contract to incorporate Joint Technical Architecture-Army Version 5.0 compliance. Modified Land Warrior EMD contract to incorporate the Joint Variable Message Format (VMF) direction to achieve Joint Force Digital Common Interoperability. Conducted risk reduction activities. Prepared draft technical manuals and training documents. Started integration of hardware and software.
- 5891 Supported engineering and support from other government agencies for overall program efforts. Established Land Warrior (Forward) base of operations at Fort Bragg. Conducted weapon tests and training.

Total 39004

FY 1999 Planned Program:

- 26945 Conduct systems integration, deliver three systems to participate in Force XXI Battle Command Brigade and Below (FBCB2) demonstration at Fort Hood, Texas. Begin fabrication and integration of 49 systems for development and operational testing and Force XXI Land Warrior early user testing. Refurbish 18 systems for DT/OT. Develop software build (V1.0 and V1.5). Continue contractor configuration management effort.
- 7460 Provide engineering and support from other government agencies for overall program efforts. Conduct technical and program reviews and briefings. Develop/coordinate documentation for release of Low Rate Initial Production Request for Proposals.
- 1500 Conduct Fightability Assessment (Phases II/III) and begin Phase IV. Conduct airborne certification.
- 4000 Conduct contractor Confidence Testing, Functional Qualification Testing (FQT), and Pre-production Qualification Testing (PPQT).
- 4000 Evaluate and implement alternatives to reduce system weight to meet operational requirements. Incorporate ECPs resulting from test feedback.
- 1668 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs

Total 45573

Project D667
Page 14 of 26 Pages
Exhibit R-2A (PE 0604713A)

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999																																		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment			PROJECT D667																																		
<p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 1000 Complete Fightability Assessment (Phases IV/V). • 12700 Build an integrate systems and obtain test supplies for development and operational testing. Complete software build (V2.0). Conduct airborne redesign/re-certification. • 10666 Conduct development testing, FQT, fix PPQT deficiencies, conduct PPQT Re-Test, training, configuration management, and initiate Operational Testing with software V2.0. • 23000 Procure long lead materials for first 500 Low rate Initial Production (LRIP) systems to be issued to an Airborne Battalion for IOTE. • 10198 Program Management, engineering and support from other government agencies for overall program efforts. Conduct technical and program reviews and briefings. Evaluate LRIP proposal and prepare documentation. Award fee for successful completion/delivery of prototypes. • 10995 Evaluate and integrate Force Twenty One Land Warrior (FXXILW) enhancements and weight reduction/CRS ECPs to meet operational requirements, Multiple Integrated Laser Engagement System (MILES) integration, and FBCB2 interoperability in accordance with operational requirements document. • 18000 Initiate production tooling and establish automated LW test bed. <p>Total 86559</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 12500 Complete Operational Testing with Version 2.0 software and conduct Operational Testing with Version 3.0 software. • 43000 Make LRIP decision, build first 500 LRIP systems, conduct First Article Test and deliver systems for IOTE. Award fee for successful completion of contract tasks. • 27600 Provide long lead materiel for next 800 LRIP systems for issue to Fort Hood Mechanized Battalion and an Airborne Brigade. Systems will be used to develop and validate tactics, training and procedures (TTPs) for Infantry Soldiers. • 8471 Continue to evaluate and integrate FXXILW enhancements and weight reduction/ECPs to meet operational requirements. • 10092 Provide logistic support for sustainment of 500 systems during IOTE. Initiate New Equipment Training. • 8000 Program management, continue engineering and support from other government agencies for overall program efforts. Conduct technical and program reviews. <p>Total 109663</p>																																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">B. <u>Other Program Funding Summary</u></th> <th style="text-align: center;">FY 1998</th> <th style="text-align: center;">FY 1999</th> <th style="text-align: center;">FY 2000</th> <th style="text-align: center;">FY 2001</th> <th style="text-align: center;">FY 2002</th> <th style="text-align: center;">FY 2003</th> <th style="text-align: center;">FY 2004</th> <th style="text-align: center;">FY 2005</th> <th style="text-align: center;">To Compl</th> <th style="text-align: center;">Total Cost</th> </tr> <tr> <td>RDTE, 0603001.DJ50, Force XXI Land Warrior</td> <td style="text-align: center;">10582</td> <td style="text-align: center;">6891</td> <td style="text-align: center;">6305</td> <td style="text-align: center;">6335</td> <td style="text-align: center;">7526</td> <td style="text-align: center;">7835</td> <td></td> <td></td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> <tr> <td>OPA3, M80500, Land Warrior</td> <td></td> <td></td> <td></td> <td style="text-align: center;">83464</td> <td style="text-align: center;">122182</td> <td style="text-align: center;">149584</td> <td></td> <td></td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> </table>										B. <u>Other Program Funding Summary</u>	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost	RDTE, 0603001.DJ50, Force XXI Land Warrior	10582	6891	6305	6335	7526	7835			Cont	Cont	OPA3, M80500, Land Warrior				83464	122182	149584			Cont	Cont
B. <u>Other Program Funding Summary</u>	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost																																
RDTE, 0603001.DJ50, Force XXI Land Warrior	10582	6891	6305	6335	7526	7835			Cont	Cont																																
OPA3, M80500, Land Warrior				83464	122182	149584			Cont	Cont																																
Project D667			Page 15 of 26 Pages				Exhibit R-2A (PE 0604713A)																																			

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D667	

B. <u>Other Program Funding Summary</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To Compl	Total Cost
OPA3, MS3610, Initial Spares-Land Warrior						250	390	442	Cont	Cont
WTCV, GB3007, M4 Carbine Mods	6964	5136	5315	2528						
WTCV GZ2800 M16 Rifle Mods	4535	5227	7180	9685	2112	0	2452	2450		

C. Acquisition Strategy The Land Warrior program has a procurement objective of 34,000 systems that will field LW to Force Package 1 and 2 equivalents. An LRIP quantity of 1800 systems will establish an initial production base for the system and permit an orderly increase in the production rate for the system. Two additional options to the LRIP contract will be exercised annually to provide additional 4,155 systems from the current prime contractor. This will allow sufficient time to transition to a competitive procurement contractor after MSIII (1Q03). This will also allow time for the Government to release the LW RFP, evaluate proposals and hardware, and award the full production contract. It also includes time for the winner of the procurement contract to set up the production line, produce the first lot, undergo First Article Testing (FAT), and then ramp up to an economical production rate.

D. <u>Schedule Profile</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2004</u>	<u>FY 2005</u>
Conduct preliminary testing		2Q								
Build three prototypes and 18 subsystem sets		4Q								
Deliver two systems for Fightability Assessment		4Q								
Conduct Fightability Assessment (All phases)		4Q	4Q	3Q						
Deliver three systems/participate in FBCB2 Interoperability.			1Q	4Q						
Conduct software IV&V (each version).			4Q	3Q	4Q	4Q	4Q			
Develop documentation and coordinate RFP for LRIP contract award			4Q							
Fabricate/integrate 49 systems; refurb 18 systems			4Q	1Q						
Contractor Confidence Testing/FQT/PPQT			4Q	3Q						
Conduct DT/OT				4Q	3Q					
Production Tooling and Procure LRIP long leads (Total LRIP)				4Q	4Q	3Q				
FXXILW insertions, MILES Integration, and Weight Reduction ECP's to meet requirements			4Q	4Q	4Q	3Q				
LRIP build, FAT, and automated test bed					4Q	4Q	4Q			
New Equipment Training (NET)					4Q	1Q				

Project D667	Page 16 of 26 Pages	Exhibit R-2A (PE 0604713A)
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							DATE		February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment						
Sustainment for LRIP						4Q	4Q	4Q			

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment					PROJECT D667		

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Raytheon Systems	CPAF	McKinney, TX	33113	38413	3Q	74861	3Q	101163	3Q	Cont	247550	TBD
Subtotal Product Development:			33113	38413		74861		101163			247550	

Remark: Contract will be rebaselined in Oct 98 and total contract cost will be negotiated in early FY99.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. RDEC'S	Multiple MIPRs		2780	2960	2Q	2398	2Q	3000	2Q		11138	
b. ARDEC		Picatinny, NJ										
c. NRDEC		Natick, MA										
d. CECOM		Fort Monmouth, NJ										
e. ARL		Various										
Subtotal Support Costs:			2780	2960		2398		3000			11138	

Remark: Buys government engineering and logistical support for overall program support.

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Test Organizations	MIPR		750	200	4Q	1300	4Q	500	4Q		2750	
b. Aberdeen Test Center		Aberdeen PG, MD										
c. Electronics Proving Ground		Edgewood, MD										
d. TECOM		Edgewood, MD										
e. White Sands Missile Range		White Sands, NM										
f. Cold Regions Test Ctr		Fort Greeley, AK										
g. ARL/SLAD		Aberdeen, MD										
Subtotal Test and Evaluation:			750	200		1300		500			2750	

Remark: Costs in FY99 are for test planning only. Testing will be conducted in FY00-01.

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900

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D668		
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D668 Soldier Enhancement Program	11541	14602	14418	14390	14156	14234	16582	16550	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> The Soldier Enhancement Program (SEP) increases the lethality, command and control, sustainability, mobility, and survivability of the soldier through accelerated acquisition of lighter, more lethal weapons and improved "soldier items" including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigation aids. For SEP purposes, soldiers are managed in three categories: dismounted soldiers, combat crews (air and ground), and other soldiers. Projects generally are completed in three years or less.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 2259 Completed evaluation/type classified for: XM25 Stabilized Binoculars, XM84 Stun Grenade, XM145 Telescope, Soldier Intercom, Midsize Riot Control Dispenser, XM1006 40mm Non Lethal Round, Anti Reflection Device, M249 Feed Tray Cover, Close Quarters Battle Sling, M240 Dismount Kit, Improved Underlying Insulating Layers for ECWCS, Knee and Elbow Pads, Ballistic Shin Guards, Ballistic/Non Ballistic Face & Body Shields, Fuel Bar, Low Profile Flotation Collar, MP Combat/Law Enforcement Ensemble, Disposable Restraint System, Safety Restraint Tether, and Intermediate Cold Wet Boot with Removable Liners. • 4199 Continued evaluation/procured prototypes and/or tested: Heavy Sniper Weapon System, 40mm High Velocity Canister Cartridge, Modular Weapon System Iron Sight, Short Squad Automatic Weapon, IR Illumination Hand Grenade, Weapon Flashlight Mount, XM95 Rifle Launched Non Lethal Munitions, 12 Gauge Non Lethal Point and Crowd Control, Fighting Position Revetment, Blast Protective Boots, and Helicopter Emergency Egress Device. • 2584 Initiated market surveys and/or evaluated: 12 Gauge Breaching Round, Fire Control for the M203, Long Range Tactical Sniper Cartridge, Lightweight Fragmentation Hand Grenade, Advanced Protective Eyewear System, Canteen Water Insert Purifier, Lightweight Low Profile Voice Amplifier, Collapsible Grappling Hook, Small Unit Multi-Purpose Trailer, Protective Gloves, and Improved Combat Shelter. • 2499 Conducted in house engineering support services, computer services, conduct technical and program reviews <p>Total 11541</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 2751 Complete evaluation/type classify/transition to production: Weapon Flashlight Mount, 40mm High Velocity Canister Round, Short Squad Automatic Weapon, Modular Weapon System Iron Sight, 12 Gauge Non Lethal Point and Crowd Control, XM95 Rifle Launched Non Lethal Munitions, Helicopter Emergency Egress Device, Advanced Protective Eyewear System, Lightweight Low Profile Voice Amplifier, and Improved Combat Shelter. 										
Project D668			Page 19 of 26 Pages				Exhibit R-2A (PE 0604713A)			

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)		DATE February 1999
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT D668
<p>FY 1999 Planned Program: (continued)</p> <ul style="list-style-type: none"> 6244 Continue evaluation/procure prototypes and /or test: Heavy Sniper Weapon System, IR Illumination Hand Grenade, 12 Gauge Breaching Round, Fire Control for the M203, Long Range Tactical Sniper Cartridge, Lightweight Fragmentation Hand Grenade, Blast Protective Boots, Canteen Water Insert Purifier, Collapsible Grappling Hook, Small Unit Multi-Purpose Trailer, and Protective Gloves. 2727 Initiate market surveys and/or evaluations: 40mm Improved Munitions, Medium Sniper Rifle System, Micro Rappel System, Improved Entrenching Tool, Stab Body Armor, Individual Camouflage System, Thermal Camouflage Face Paint, Improved Pistol Holder/Harness for Aviators, POL Handlers Glove System, Tactical Search/Inspection Mirrors, and Individual Riot Control Agent Neutralizer. 2500 In house engineering support services, computer services, conduct technical and program reviews. 380 Small Business Innovative Research/Small Business Technology Transfer Programs <p>Total 14602</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> 4649 Complete evaluation/type classify/transition to production: Heavy Sniper Weapon System, IR Illumination Hand Grenade, 12 Gauge Breaching Round, Fire Control for the M203, Tactical Sniper cartridge, Lightweight Fragmentation Hand Grenade, Blast Protective Boots, Canteen Water Insert Purifier, Collapsible Grappling Hook, Small Unit Multi-Purpose Trailer, Protective Gloves, Improved Entrenching Tool, Stab Body Armor, Improved Pistol Holster/Harness for Aviators, POL Handlers Glove System, and Tactical Search/Inspection Mirrors. 2634 Continue evaluation/procure prototypes and/or test: 40mm Improved Munitions, Medium Sniper Rifle System, Individual Riot Control Agent Neutralizer, and Thermal Camouflage Face Paint. 4635 Initiate market surveys and/or evaluations on new items to commence in FY2000. 2500 In house engineering support services, computer services, conduct technical and program reviews. <p>Total 14418</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> 3290 Complete evaluation/type classify/transition to production: 40mm Improved Munitions, Medium Sniper Rifle System, Individual Riot Control Agent Neutralizer, and Thermal Camouflage Face Paint. 4125 Continue evaluation/develop prototypes and/or test FY2000 new starts. 3975 Initiate market surveys and/or evaluations on new items to commence in FY2001. 3000 In house engineering support services, computer services, conduct technical and program reviews <p>Total 14390</p>		
Project D668	Page 20 of 26 Pages	Exhibit R-2A (PE 0604713A)

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

DATE
February 1999BUDGET ACTIVITY
5 - Engineering and Manufacturing DevelopmentPE NUMBER AND TITLE
0604713A Combat Feeding, Clothing, and EquipmentPROJECT
D668

B. Other Program Funding Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To Compl	Total Cost
OPA3, MA6800, Soldier Enhancement	1570	4819	3586	4012	3158	3146	5839	6174	Cont	Cont
OPA2, BA5300, Soldier Enhancement	966	4580	3326	4405	5146	6165	8283	8338	Cont	Cont
OPA2, K30800, Ltwt Video Recon System (LWVRS)	4757	8341	3436	1207	1345	1385	1364	2747	Cont	Cont
WTCV, GC0076, Small Arms (SEP)	4465	5219	5214	3541	305	2000	2452	1960	Cont	Cont
WTCV, GZ1290, Squad Automatic Weapon (MODS)			8326	10053	5486	4165	5000		Cont	Cont
WTCV, GZ2800, M16 Rifle Mods	4535	5227	7180	9685	2112	0	2450	2450	Cont	Cont
WTCV, GB3007, M4 Carbine Mods	6964	5136	5315	2528	4904					15514
WTCV, G01500 Sniper Rifle			1138	3115	2160					6521
WTCV, GC0925, Mods	1347	1125	1006	795	1268	858	1339	1338	Cont	Cont
PAA, F47500 7.62mm AP	1949	1921	1355							7738
PAA, F47600, 5.56mm AP	1933	1921	1891	1925						7731
PAA, F00900, 40mm Canister						5558				5654
PAA, E84900, XM84 Stun Grenade		1261	1767	2373	2402					7908
PAA, E86400, 12 Gauge Non Lethal				950						964
PAA, E86500, Cartridge, 12 Gauge Crowd Dispersal			955							968
PAA, E91100, XM95 Cartridge, Non Lethal Crowd		3249	4250	6410	6545					20731
PAA, E89000, 40mm Non Lethal	1213	1634	1576	1899	1978					8389
OMA, 121017, Central Funding and Fielding	51500	48130	94738	85780	94127	77456	77456	77456	Cont	Cont

C. Acquisition Strategy: SEP procurement consists of Non-Developmental Items (NDI) or Commercial Off-the-Shelf (COTS) that can transition to production in three years or less. Items that are technologically challenging requiring more than three years development are pursued under the appropriate system area. New SEP items are reviewed and approved for evaluation annually. Procurement varies by appropriation.

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999																																			
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D668																																			
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<p>* Milestones Completed</p> <p>Note: Numerous individual projects are ongoing under the Soldier Enhancement Program (SEP) and each project has its own milestone schedule.</p>																																											
<div> <div>Project D668</div> <div>Page 22 of 26 Pages</div> <div>Exhibit R-2A (PE 0604713A)</div> </div>																																											

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment					PROJECT D668		

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
	In House	Various	6042	2996		1366		2495		Cont	12899	Cont
	Contracts	Various	1986	6575	Various	9584	Various	8065	Various	Cont	26210	Cont
Subtotal Product Development			8028	9571		10950		10560			39109	

Remark: Soldier Enhancement Programs are Non-Development Items (NDI) and Commercial Off-the-Shelf (COTS) items. New items are identified annually. Contractual efforts are very low dollar amounts – used to procure a few prototypes for testing.

II. Support Costs: Support costs vary annually depending on the types of items we are evaluating. RDEC's support to evaluate items also varies annually depending on number and types of items.

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
	MIPR	TECOM/OPTEC	1014	2531		968		1330		Cont	5843	Cont
Subtotal Test and Evaluation			1014	2531		968		1330			5843	Cont

Remark: Testing costs vary annually by item.

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
	In House	PM-Soldier	1374	1250		1250		1250		Cont	5124	Cont
	Task Order		1125	1250		1250		1250		Cont	4875	Cont
Subtotal Management Services			2499	2500		2500		2500			9999	

Remark: Costs vary annually depending on number and type of items being evaluated.

Project D668	Page 23 of 26 Pages	Exhibit R-3 (PE 0604713A)
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										DATE		February 1999	
BUDGET ACTIVITY						PE NUMBER AND TITLE							
5 - Engineering and Manufacturing Development						0604713A Combat Feeding, Clothing, and Equipment							
Project Total Cost:				11541	14602		14418		14390			54951	

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D680		
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D680 Mounted Warrior	1567	184	194	934	613	0	0	0	0	3518

A. Mission Description and Budget Item Justification: Mounted Warrior (MW) is an integrated modular system that will enhance the combat crewman's fighting capabilities. The MW system will be used by a wide variety of combat crewmen and will be tailored based on Mission, Enemy, Terrain/weather, Troops Available and Time (METT-T). The physical burden imposed by cumbersome personal equipment can degrade a crewman's effectiveness by increasing rates of fatigue, reducing mobility and restricting their ability to perform mission functions. Consideration will be given to optimizing the balance between vehicle mounted and crewman mounted equipment and designing an overall system that will improve crewman's endurance, safety, mission performance and crewman/vehicle interface. The MW system will provide hands free, tetherless communications, increased laser eye protection, maximum individual protection from NBC contamination, spall, flame and heat, and will provide for better performance of crew tasks without reducing tactility and agility.

FY 1998 Accomplishments:

- 197 Identified existing and mature technologies and potential candidates for new technology development through a request for information survey for the MW system.
- 900 Leveraged Land Warrior and Air Warrior technologies to procure prototypes which allows the user to conduct a Concept Experimentation Program (CEP).
- 342 Procured hardware and contract support to support the Mounted Warrior CEP.
- 128 Engineering support for program and requirements definition and documentation.

Total 1567

FY 1999 Planned Program:

- 179 Program Management and engineering support for program and requirements definition and documentation.
- 5 Small Business Innovative Research/Small Business Technology Transfer Programs

Total 184

FY 2000 Planned Program:

- 194 In house engineering support services, computer services, conduct technical and program reviews for program execution.

Total 194

Project D680
Page 24 of 26 Pages
Exhibit R-2A (PE 0604713A)

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999																																																																																																																
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D680																																																																																																															
<p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 934 Program management and engineering support for program management. <p>Total 934</p>																																																																																																																								
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<p>C. Acquisition Strategy: The MW program is designed to field currently existing/mature technologies to meet the needs of the Combat Vehicle Crewman (CVC).</p>																																																																																																																								
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ARMY RDT&E COST ANALYSIS (R-3)

DATE

February 1999

BUDGET ACTIVITY

5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE

0604713A Combat Feeding, Clothing, and Equipment

PROJECT

D680

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
Contractor TBD								300			300	
Subtotal Product Development:								300			300	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Various	MIPR	NVESD	313					25			338	
b. Various	MIPR	CECOM C2ID	376					25			401	
c. Various	MIPR	NRDEC	398					25			423	
d. Various	MIPR	CECOM S&T	417					25			442	
e. Various	MIPR	PM Platforms	63					247			310	
Subtotal Support Costs:			1567					347			1914	
III. Test and Evaluation: Not applicable.												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Various	In-house	PM-Soldier		74		73		62			209	
b. Various	Matrix Spt	NVESD		110		121		125			356	
c. Various	Task Order	Spt Contractor						100			100	
Subtotal Management Services:				184		194		287			665	
Project Total Cost:			1567	184		194		934			2879	

Project D680

Page 26 of 26 Pages

Exhibit R-3 (PE 0604713A)